



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,336	05/31/2001	Werner Knebel	LASP:113_US_	9584

7590 12/22/2003
Simpson, Simpson & Snyder, L.L.P.
5555 Main Street
Williamsville, NY 14221

EXAMINER

CABRERA, ZOILA E

ART UNIT	PAPER NUMBER
----------	--------------

2125

DATE MAILED: 12/22/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

pp24

Office Action Summary	Application No. 09/871,336	Applicant(s) KNEBEL ET AL.	
	Examiner Zoila E. Cabrera	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5-7, 9-12, 14, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by **Penn et al.**.

Penn discloses a method and system for generating a three-dimensional object comprising the steps of:

Regarding claims 1, 9 and 14,

- scanning an object model with a light beam of a light source, wherein the scanning optical system operates confocally (Col. 4, lines 56-59 and lines 65-67; Col. 1, lines 32-40), detecting the light returning from the object model (Col. 3, lines 36-38; Col. 4, lines 56-65, please note that when scanning the light detected from the object model is detected in order to provide the image of the model), generating object model data from the detected light (Col. 3, lines 30-38- Col. 5, lines 1-2) and

transmitting the object model data to an apparatus for object generation (Col. 2, lines 60-62);

wherein object generation is accomplished substantially using laser beam lithography methods (Col. 1, lines 32-40 and lines 66-67).

With respect to claims 5-7, 9-12, 14, and 17-19, **Penn** further discloses,

- scanning of the object model is accomplished with a confocal scanning microscope (Col. 4, line 65);
- object generation is accomplished substantially by material-removing shaping (Col. 3, lines 53-58);
- as a function of an intensity value and/or a wavelength and/or a polarization of the detected object model light, the generated object is generated from various materials (Col. 3, lines 59- Col. 4, lines 1-6; Col. 1, lines 66-67 – Col. 2, lines 1-4);
- the laser beam of the laser beam lithography machine exposes a polymer liquid that can be cured with laser light (Col. 1, lines 34-40);
- rapid prototyping methods are used for object generation (Col. 1, lines 14-16).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2125

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 8, 13, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Penn (US 6,175,422)** in view of **Baer (US 6,259,104)**.

Penn discloses the limitations of claims 1, 9 and 14 above but fails to disclose the limitations of claims 2-4, 8, 13 and 15-16. But **Baer** discloses such limitations as follows:

- the scanning optical system has at least one illumination pinhole and one detection pinhole (Col. 4, lines 33-35; Col. 5, lines 15-20);
- the scanning operation is controlled by a control device, and the light beam is deflected by a beam deflection device (Fig. 2)
- the light returning from the object model is reflected light and/or scattered light and/or fluorescent light (Fig. 1);
- in order to depict dynamic processes of an object plane, the object planes detected at different times are assembled into a three-dimensional object (Col. 8, lines 54-61, i.e., producing a composite image).

Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **Penn** with the teachings of **Baer** because it would provide a resolution enhancement technology which can be adapted to the fields of high resolution photolithography, nanofabrication and digital computer memory storage and retrieval (**Baer**, Col. 2, lines 40-44).

Art Unit: 2125

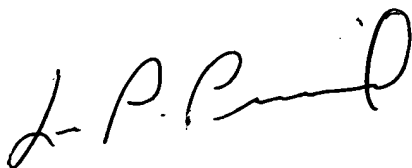
Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (703) 306-4768. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (703) 308-0538. Additionally, the fax phones for Art Unit 2125 are (703) 308-6306 or 308-6296. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Zoila Cabrera
Patent Examiner
12/13/03



LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100